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PSYCHO STYRENE

The Journal Of Sci-Fi, Fantasy, Horror and Stop Motion For Modelers

Martian War Machine

Models For Filming

Armature Magic

Scarecrow Puppet

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Another Run at the wall?

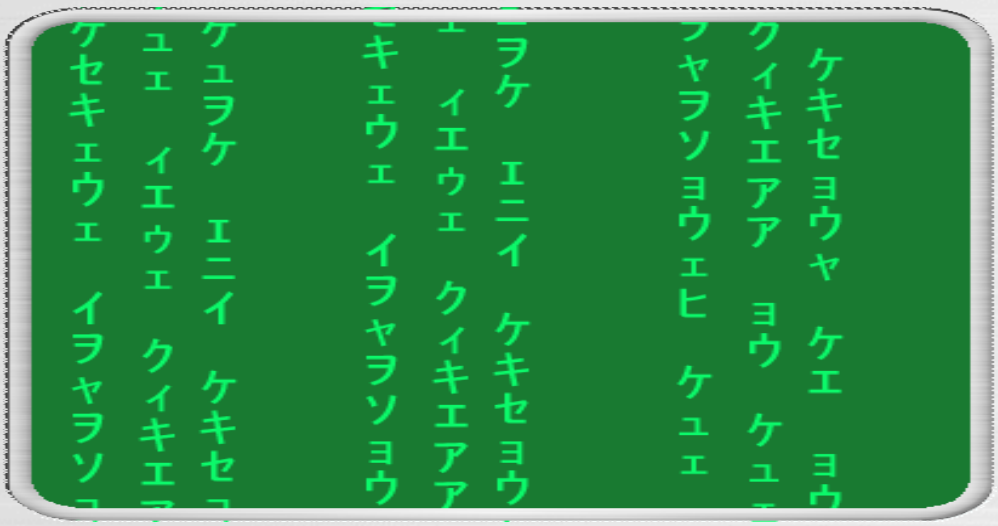
Well I know it's been a really long time since I put out an issue of Psycho Styrene and there are some of you out there who may be glad to see it back, though I imagine most people would be more of the opinion of why? For the later who are clearly the most sane of us I will just say that after some requests from some areas for a new issue and the constant prodding from someone close and I do mean prodding with a 20,000 volt cattle prod each time I passed them I decided that it may be time to think about releasing a new issue.

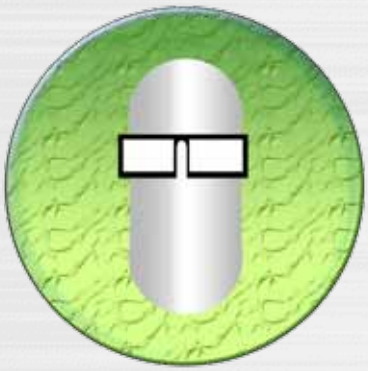
For those of you who are happy to see a new issue I would firstly like to thank you and secondly say I hope the therapy is going well☺ but more seriously this is the last issue of Psycho Styrene in this form, partly due to the fact that getting responses from people let alone articles has become really tricky which is why I put the concept on the shelf for so long, the other reason is that I have a new workshop so that I can produce longer articles and projects alongside contributors to create a new version of the magazine.

But fear not if you are a fan of the old version, there will not be much of a change to the basic layout, the biggest part of the new look will rest with the format of Psycho Styrene and the length of the magazine, it will also be moving to a quarterly publication, with some how-to and project books released periodically along the way. I would just like to thank all of you for sticking with us and hope you like the new book as much as the last one so enjoy the Issue.

The Geek is Dead. Long Live the Geek

This Issue





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Speedy filming models

By Scott Spicer

Creating these models was one of 'those' challenges that you accept from time to time. It looks good in the beginning, you kick yourself for thinking you can meet the deadline half way through, and are very happy you took the work when it went out the door to the client.

Two teachers, from one of Boston University's film classes, contacted me. I had 14 days in which to design, build, finish paint and deliver the two filming models. Does that sound like a lot of time? No? Your right, not a lot of time! I had already lost three days, when I accepted the job, to shipping the models over-night to Boston from Philadelphia. (They required the model arrive a day ahead of filming.) I lost another day to negotiate the quote and design requirements.

I was given these two images as guides for the models.

"Rescue vessel"

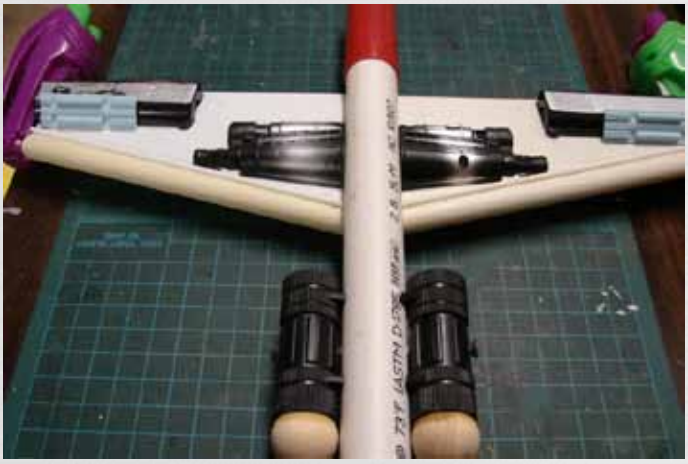
"Survey vessel"

Both models were to be 18" to 20" in length and they had to be able to dock together. The class did not have filming stands or other fancy equipment for filming the models, just green-screen surfaces to place them on. That eliminated the need to build in mounting points for the stands. The guidance given for final paint and finish for the models was that both ships had to look very 'weathered, like the ships from 'Alien'. The Survey vessel was to be the more weathered of the two.

Since time and my budget, were in short supply, the local dollar store and scrap PVC piping and wood were the solution to this challenge. The wood would be the 'wing' supports; the PVC piping would supply a strong framework to mount everything to. My second concern was creating interesting shapes with the various toys, with out it looking toy-like. The best way to do that is to cut everything apart and arrange the pieces in ways that look interesting and believable. I selected an item by looking at its surface texture and shapes. I mentally cut each object in half or in small sections, re-arranging them to make something interesting. Lots of extra model kit parts were used as well.

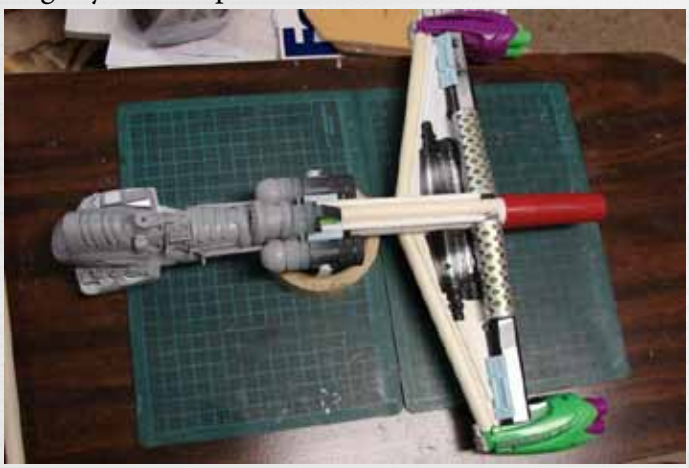
The Rescue vessel came together quickly, as the

clients liked what they saw in the rough layouts.
The components in the first two images are screwed together for strength. The wings were covered with sheet styrene to eliminate the worry of wood grain showing.



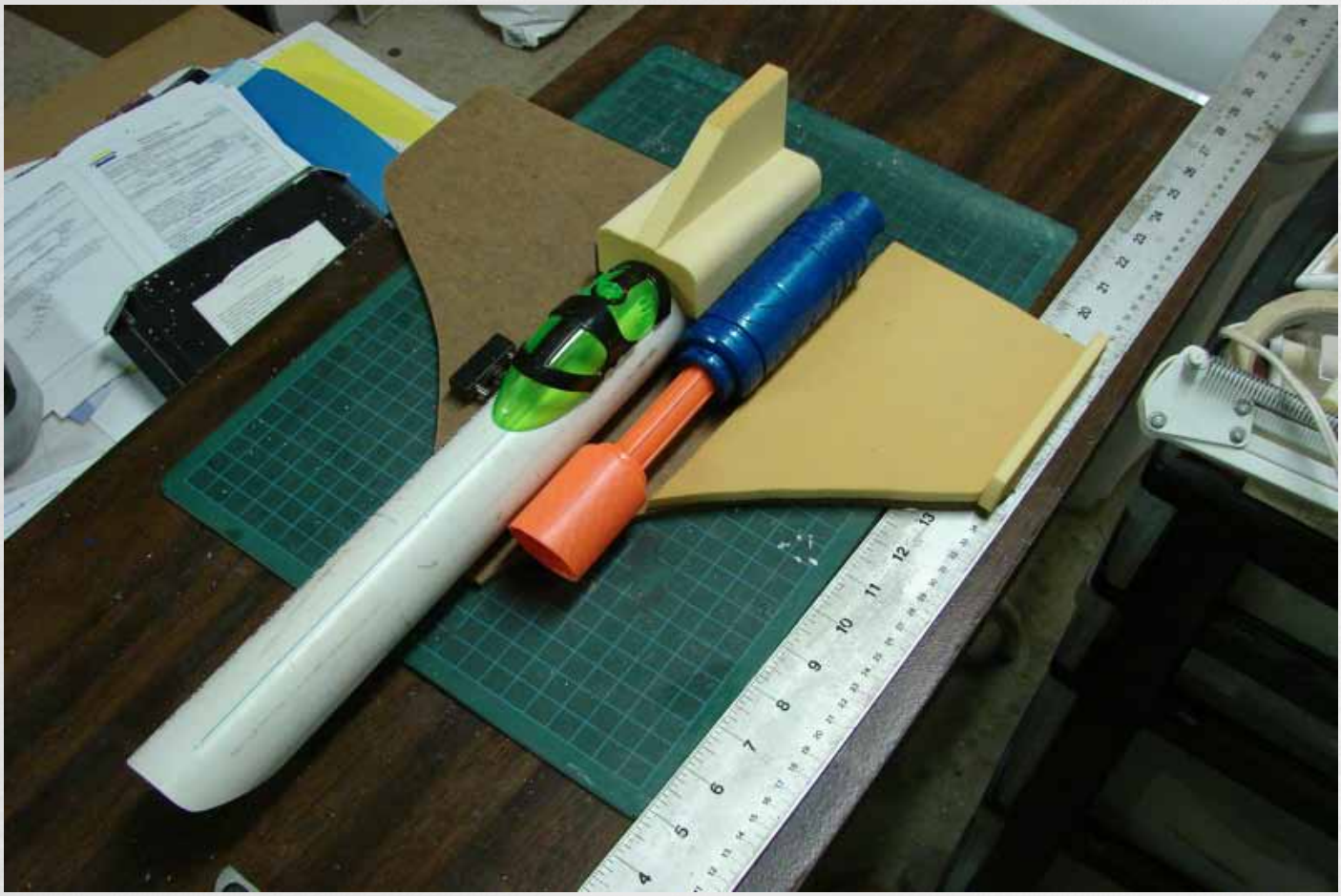
At this point in the build, I took a nicely staged photo of the model. It is not yet finished but nearly there. At this point in the build, the model was approved. All that was needed was the finer detailing.

This next image shows a test coat of primer on the bow of the ship, to satisfy the clients concern that the brightly colored plastic would be covered well.



No Worries!
I now concentrated on taking the model to completion. This meant adding any additional details before painting and weathering. I never had to worry about the underside of these models, as they were to sit flat for filming.

The Survey vessel went through a little more of the design approval process. The image provided looked like a fighter, so my first passes at the model were winged. This 'fighter' look was not acceptable as a 'survey' ship. The wings made the ship appear to small, as you can see from this first version. It was also at this point that I was told the cockpit would hold a crew of three, not one.



So, I moved the 'wing' to just about mid point of the tube body, and changed the cockpit to what I thought would work. I drew in pencil a suggestion to change the 'wings' to pylon-like structures and added sensor

pods with sensor dishes on the ends. That did the trick for approval

It was at this point that I was told the survey vessel had to have three more windows for crew, so I added a section in front of the cockpit.

More piping, tanks, antennae and gadgets were added to simulate survey equipment.

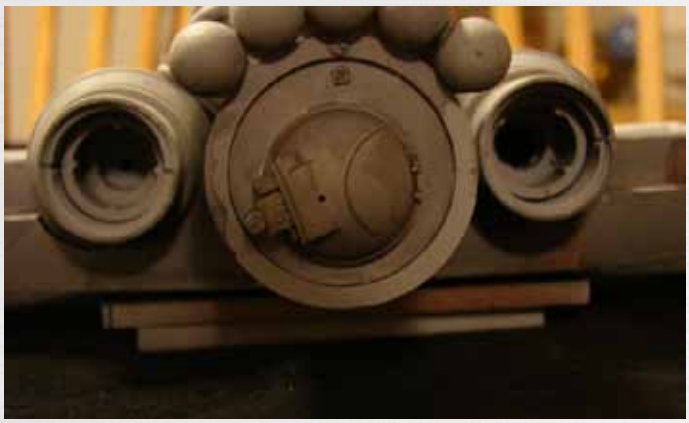
time to weather these ships.
It was described to me that the ships should be 'dirty and rusty' and that the survey vessel should be the more weathered of the two. This type of finish on a model is just about everyone's favorite. It allows almost total freedom to apply rust, dirt and decay to your heart's content. This is even more so for space vehicles, as it can't be argued what a deep space survey vessel would look like after a prolonged journey.
The color scheme also lent itself well to this 'weathering' scheme. Both ship were to be an overall gray, with black and metal accents. The rest was up to me. I started with the rescue vessel first, and used a light touch for the weathering. You can see the 'streaking' effect from cruising through space, for the first layer, here and there. I then started adding different layers of weathering.
I kept to a simple pallet of colors; reds for 'rust', dark grays for dirt and black for grease and grime. These colors were applied in varying degrees of strength to achieve good depth to the surface of the models. After I had weathered the rescue ship, the client requested that the surface of both models should show areas of bare metal. So, I went back in on both models and applied silver and orange paints, using a 'stippled' effect with a brush, to build up the look of an exposed metal surface.

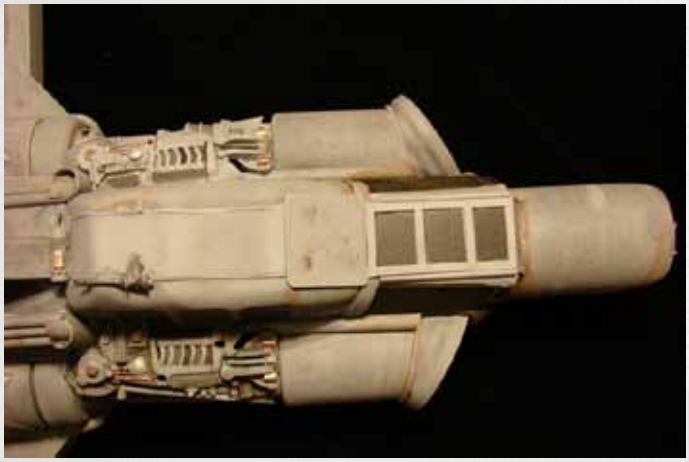
The final weathering finish.

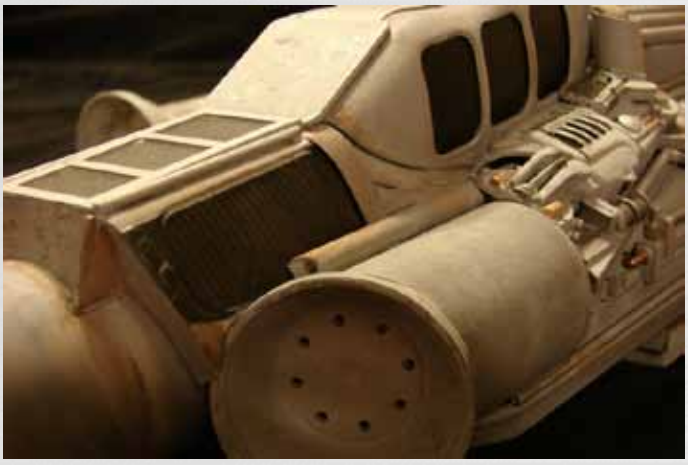
The following images show the docking hatches, and both ships docked.

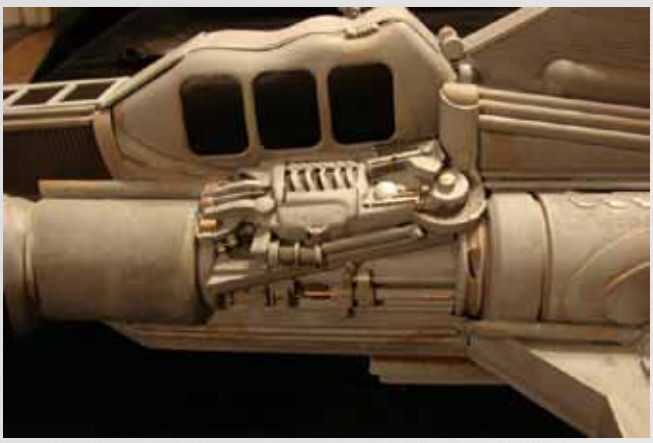
Now that the docking function is taken care of, it is

The weathering for the survey ship was basically 'bathing' the model in washes of the same colors, to achieve the more 'derelict' look required. I also went back in and lifted some of the colors to add more contrast. I have to say that the survey ship was the most fun as I kept applying heavy washes until I was satisfied with the look.



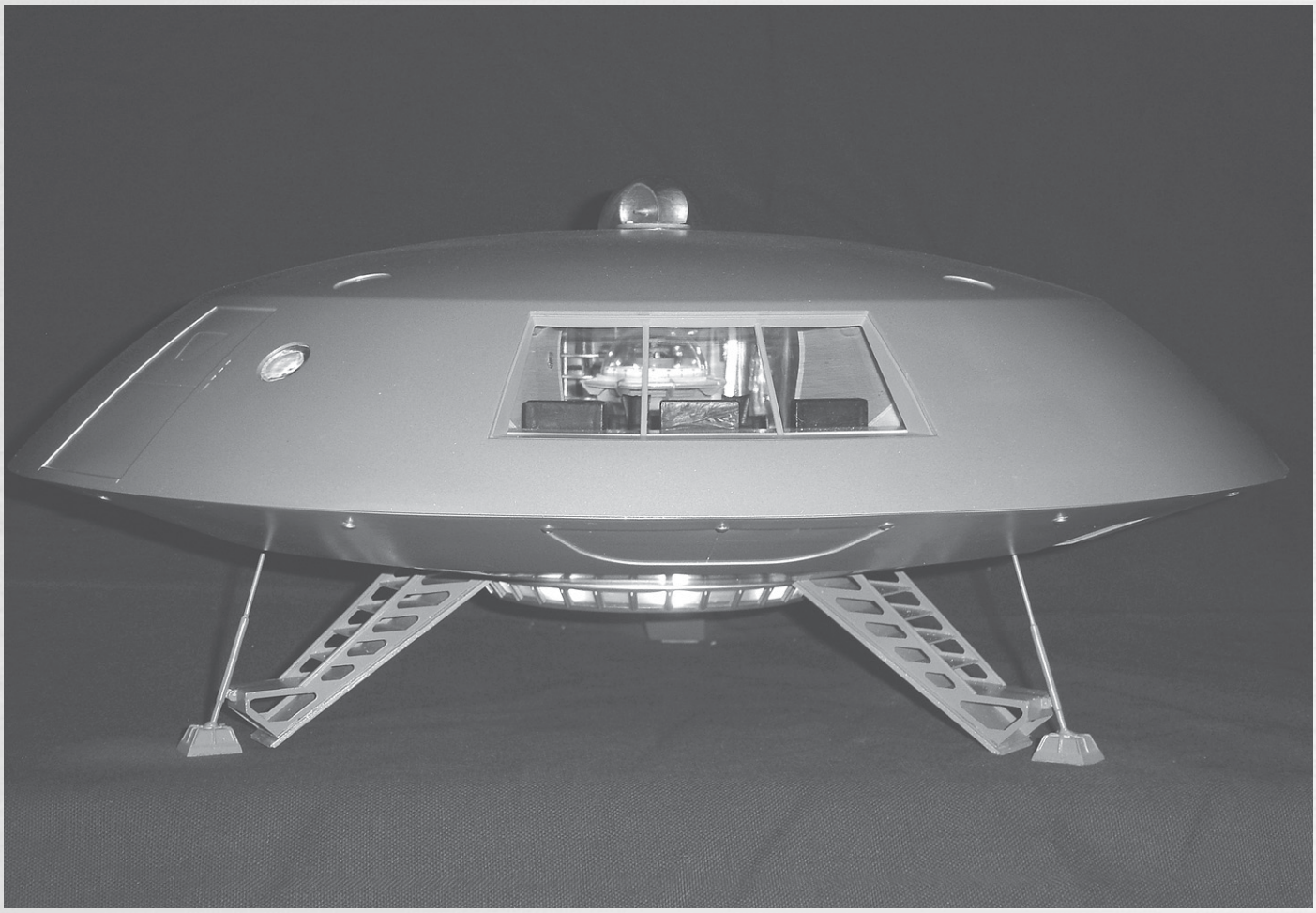






The completed models, docked, tail-to-tail.
All together a valuable experience. I was able to meet this crushing deadline and satisfy the client. Would I accept such a job again…yes. Thank you for taking the time to read this article, I hope it informs as well as inspires.

Build Project



Building the Moebius Jupiter 2

By Lou Dalmaso

The hardest thing about building the Moebius Jupiter 2 model kit is deciding to jump in and do it. It's an impressive and somewhat daunting kit and when you look at the pile of parts you can be left scratching your head as to where to begin. To add to the trepidation, every week it seems another aftermarket doo-dad is announced to further enhance the kit.

Here's a list of the aftermarket products I used **Paragrafix** - photo etch, Hero Landing Gear, backlit panels and decals, and frankly the best painting templates in the known universe **VooDooFX** - the interior lighting kit **Space Circuits** - Jack was nuts enough to let me customize my core circuit with alternating warm/cool white LEDs. The final effect is very sweet **Teslabe** for going the extra parsec in helping me out with a motor and control board so I could make the scanner spin. **Crow's Nest Micro Masterpieces** - freezer tube figures. Most of the paints for the major areas are from the "Duplicolor" line of automotive paints. I find that they give a very even color and dry to be rock hard. The hull color is "Light Slate" Interior colors are from the "Tamiya" line of acrylic paints with the exception of anything that is silver. That's good old Testor's silver. Because there's still nothing better than enamel when you want your silver to pop!

I broke the build down to two major sections.
A) The hull "shell" including landing gear, top bubble scanner, main viewport and fusion core lighting and
B) The interior cabin module. My goal was make the interior a self-contained unit that would be installed

into the bottom half of the hull in the final stages. Not only did this cut down on unnecessary handling of the bottom hull part, but allowed me to work on one section while the other was drying. Let's start with the hull.

Like I do with all my kits, I first washed the plastic

with warm soapy water to get the release agent that the kit makers use off of the plastic. This will insure better paint adhesion. I usually use the kitchen sink for this, but given the huge size of the J2 hull, I had to take this to the bathtub. After that it was a coat of Duplicolor Automotive Primer/Sealer. It goes on smooth and dries quickly. A light sanding on the top half and it was ready for finish color coats. Duplicolor "light slate" gave me the color and the right shininess I was looking for. I did **not** have the windshield frame installed at this time, because it was easier to leave it out than to install it and then mask it off. I must have sprayed 3 or 4 light coats with a 2000 grit sandpaper light sanding between coats. The final coat was a little heavier, but there is no clear coat over it. The paint has a natural semi-gloss finish.

I knew I was going to be lighting the model, so I had to plan a couple of things before I could paint the bottom hull. Popular opinion points to the "pod bay doors" on the bottom of the hull as the best place to locate a battery box, so I cut those out. I knew that I was going to be using Paragrafix' Hero Landing Gear,

so I went ahead and closed in the landing gear wells and lastly located where I would be putting the toggle switches for the lighting circuits. With all of the modifications done, I sprayed the inside of the hull flat black (to help block the light from bleeding thru the hull) and the light slate color on the outside. The fusion core was not attached since I wanted it to be a slightly different color

A note about the fusion core… If you are on a tight budget and you can only afford one aftermarket accessory for your Jupiter 2, spend your money on a good fusion core lighting kit, even before cabin lighting or anything else. The chasing light effect is such an iconic part of the look of the Jupiter 2 that if you do nothing more than paint the hull and add those lights, when you sit the ship on a shelf or hang it from your ceiling, you will get more "Oooohs" and "Ahhhs" than any other single improvement you can make.

alone would give. I tend to use the big rattle cans to spray paint the parts whenever possible because I feel it gives a more even finish, but sometimes that's just not possible due to the limited palette of colors available in the big cans. Such was the case with the walls of the Jupiter 2 cabin.

I developed a set of painting templates to help with the task of painting the walls. First I sprayed the whole wall pieces the color of the raised portions. When those had dried, I masked them off . I also masked off the doors, as well as any other parts of the walls I didn't want to be painted the famous "Irwin Allen tan" that is so common in the production design of his shows. Because I had to mix the color of tan and airbrush it, I needed to get every part that used that color painted at the same time. After I had done that I sat them aside to dry and turned my attention to lighting. I used the VooDooFX lighting kit for the interior, and it's a good thing that Randy provides so much extra wiring, because while I had a general idea on how I was going to layout the wiring, you can always count on a surprise or two to alter your plans. In my case, the first lighting test showed me that I did not want to power all of the LEDs from a single battery source (they drained much too quickly.) I decided to split the two boards into two separate circuits each with their own power and switch. I located them on opposite sides of the cabin to make wiring cleaner.

By this time the walls were good a dry and could be worked on. I went back to my painting templates to paint the two toned doors, first masking off the tan walls and spraying the light gray on to the doors. When the light grey had dried I covered them over with the painting masks and sprayed on a darker gray.

On the other walls there is a repeating light green color that also needed to be masked off and then sprayed on.. As a side note, it's worth pointing out that all of the walls were painted and completely finished before they were glued to the floor piece. It's just easier to work on them this way. I used the Paragrafix photo-etch and decals for these and they pretty complete and self-explanatory the only additional thing I did was to give the radar displays to added dimension by cutting the cleat top off of what are called "wiggle eyes" (available in most craft supply stores) and, using some Future floor wax as glue, attached them to the top of each screen. I know it's not strictly how the set looked, but I thought it added a little something. The console sits over three LED lights that stick up from the floor. I felt that the light overspill was too much that way, so I put a bit of brass tubing over the LED's in the floor to better direct the light to just the big screens

Freezer Tube Walls

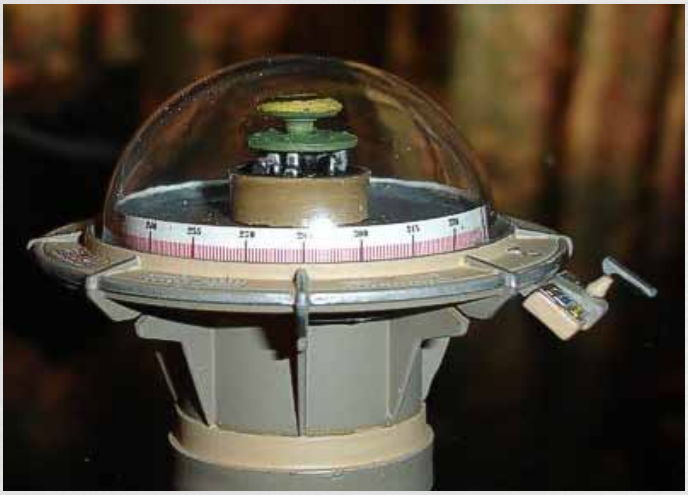
The framework of the three freezer walls are the same and can be painted in assembly line fashion The VoodooFX lighting kit provides a diffusing material for the back wall, but you should still "frost" the clear panels to spread out the lighting more evenly. To do this, just take a high grit sand paper (I use one of those sanding "sponges" you can find in the paint

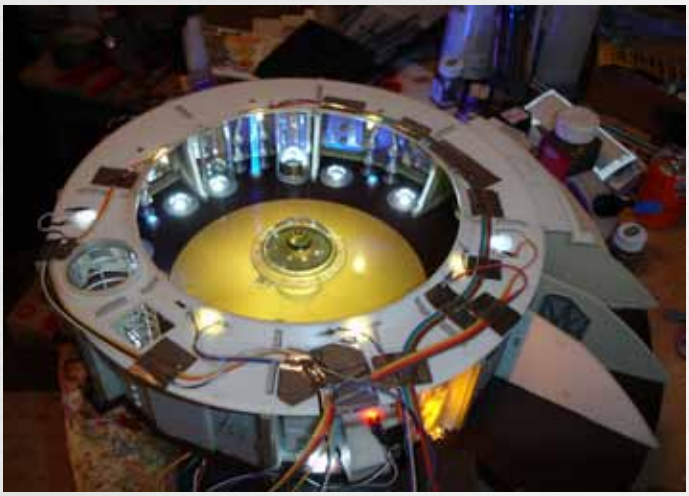
supply section of the local mega store - Wal-Mart or similar) . all you need to do is scuff up the back side of each clear piece. It's a matter of taste as to how much, but I think you'll know when to stop. Because I knew I had a set of the Robinson Family freezer tube figure coming from Crow's Nest, I wanted to make sure that that area was well lit to show them off. The Voodoo lighting set also includes *warm white* LEDs to go under the floor of each tube. Warm white LEDS are the ideal lights to go here because they give off a more natural light (they're not as "blue" as traditional LEDs) and there will be plenty of blue lighting coming from behind the wall panels

as well as the three thinner tubes that are between the freezer tubes.
The remainder of the interior walls were painted according to the paint guide in the instructions and modified to use the Paragrafix photo-etch panels and decals.

Astrogator
The only "non-stock" alteration I did to the astrogator was to create a new "measuring tape" to replace the stock decal. Let's just say I didn't have good luck getting the original in place without some tearing and folding over (and just a small amount of cussing) The astrogator dome (along with the freezer tubes and the top of the hull dome) are so clear and perfectly cast, that I didn't want to handle them until I was absolutely ready for them (to minimize the chance of stray paint or glue finding their way to them). Well, I thought I had the decal set down just right and set and dried and all and when I put the dome over the finished astrogator, it pushed the decal down with it. Lesson learned, I removed the remnants of the decal and sanded the ring down a little more to where the dome fit over it without touching the edges. I whipped up a new measuring tape using reference pictures I've seen on the web, and printed out a handful of replacements. A touch of glue at the tips of the paper, and I was back on track (and yes, I did figure in the thickness of the paper the second time) since it was not wired and could be added at the very end, I put it aside.

Cabin Pressure
The interior of the cabin is cleverly designed series of interlocking pieces, which makes for a very stable model, but the downside is that you need to follow a strict assembly order, or else the pieces just won't line up. I was waiting for Drew to rush me the Robinsons figures, but that meant I couldn't close the tubes, which meant I couldn't permanently attach the soffit, which impacted the other walls as well and so on. The best I could do is to glue down the walls to the floor alone, using the soffit as a temporary spacer, then remove the soffit again to work other areas. Eventually the big day came when I was ready to permanently install the completed cabin into the hull. I knew that this meant I would lose access to the core lighting circuit area if I didn't plan well. My design for that area calls for it to be remotely powered (using its own battery source) and be completely removable. The core itself is only snapped into place (thanks again to those genius model





engineers) and the battery is velcroed to a plastic platform that I scratch-built and attached straddling the custom circuit board. There is a wire running to the switch in the landing gear area, but there is enough slack that I can pull the core out when as battery change is needed

A deep breath, and some two-part quick setting epoxy later, the cabin was in place. There is a freezing tube that sits directly over one of the landing gear wells, and the LED to light that pad has a hard time squeezing into the available space unless you flatten it out as much as possible. With all of the LEDs that light elements on the floor, the first thing to do was

to lock them in place by sitting them in a spot of hot glue. I estimate the length of wire needed based on where the circuit board is going to be and then using the hot glue to hold the bulb in place, solder the wiring to the bulbs. I then run a strip if duct tape (yes the actual reflective tape they use on ducts, not the silver tape that merely calls itself "duct tape") over the wiring to keep it neat and flat to the underside of the floor. You must be sure that the tape does not come into contact with bare wires, however. With the cabin firmly attached and wired to the bottom of the hull, it was time to add the final piece. The top hull. No matter how many times you test fit or how carefully you plan it, there is still a moment where you hold your breath when doing the final fitting. It was always my intention to have the top of the hull removable. I figured there was little sense in putting all of that hard work into the interior of the ship and not be able to look at it all or (heaven forbid) get back in there to replace any lights that go awry.

I found that when I put the two sections of the hull together, they did not join together a seamlessly as I had hoped and some mechanical assistance would be necessary. I took advantage of the fact that there were some evenly space indentions in the lower hull (the instructions call them thruster ports) and screwed in some tiny hex headed bolts into those recesses. I epoxied some PVC blocking into the rim of the upper hull and screwed the bolts into them, pulling the hull together.

A last minute addition was made possible by the generous help of a fellow Hobby talk board member who goes by the name of Teslabe. I had tried on my own (unsuccessfully) to motorize the radar dishes that sit in the top dome. When I asked him what he used, he graciously supplied me the correct motor and controller board. Since I had closed over the available space in the other two landing gear wells where I had previously put switches, I had to cut into the remaining available gear well and mount a switch plus run a power line to an open spot on the circuit board I also had to camouflage the motor by making it look like a regular piece of Jupiter equipment.

With the figures painted and in their tubes, the top bolted down and all the lights turned on, I think I'm as happy with the results of this kit as I am with anything I've ever built. I took it to Wonderfest in Louisville, KY last May and not only earned a Bronze medal for it, but more importantly I got plenty of "oooh's" and "ahh's" and some very kind words from Ron Gross who ought to know a thing or two about the Jupiter 2…he painted the illustration that's on the box! Since the time I built this, an enterprising modeler named Kenlee has come up with a set of ceiling beams. I don't know if I would try to retro fit them into my finished J2, but I would definitely add them to the pile of aftermarket parts I would use were I to build another. As I stated earlier, this can be a daunting kit to build, but if you map out what you want to do and pick the aftermarket products you wish to use, you will find that, by Jupiter!, you can achieve some darn good results.

Techniques

Paint Your Armour

By Darren Llewellyn

Now despite what you may be thinking this article is not about a new Tom Holt book or some badly conceived musical comedy starring an extremely unlikely combo, no what we will be looking at here is some great ways to paint up metallic effects for armour and robots. Now I don't know if any of you have had the same problem as me of the years, wanting to create very cool metallic paint jobs on your models and custom figures only to have your results fall short of your expectations due to the fact that the only way to create that metallic paint you needed was to mix your colour with silver to try and make your own metallic colour.

This is the way that I struggled for years to create that elusive metallic colour, then a few years ago I read about an interesting way to get that metallic effect by using a base of silver and layering it with a clear paint colour to create a cool metallic armour effect. So after having experimented with it for a little while I thought it might make for some useful ideas for some of you out there that may not have tried it.

Ok so you've just created that super cool armoured character that you have been mulling over in your head for ages, and have finally created a custom figure puppet or sculpture of it and all you have left to do is give it that final paint job that will finish it off just the way you want. With luck you could find the right metallic paint colour but sometimes even that isn't the right effect, so short of sending it out to be chromed or vac metallized what can you do? Well in this article we hope to give you an alternative that is easy to do and cost effective, so without any more wasted space let's start with the project.

The first thing we need to look at is what you will need to create this paint technique, the items needed are basic and easy to get hold of. You'll need a couple of brushes, the size will depend on what size the finished model will be, as for the paint you'll need Black, some silver paint and clear paint colours, here we are using mostly Tamiya paints, there are several other types out there such as Citadel paints, Vallejo colour and Humbrol.

For the technique that we are using you can use these or any combination of them, though I would just like to add a caveat regarding the Citadel paints, they have a new line out and I would recommend sticking to the base colours for the metallic coat as we will be building up several layers here having to apply multiple layers of the base colour to get a solid colour could diminish any detail. While in this article I will be applying all these colours with a brush there is absolutely no reason this cannot be done with an air-Brush.

Preparation – Under Coating

This is the undercoat, here I have slipped back into my old miniature painting days and opted for a black undercoat for the armour, this was always the way to do it back then, I'm not sure why it's better sometimes it's hard to argue with results and it does seem to give it a good finish. I have opted to use Citadels Abbaddon Black (replaces the old Chaos Black) for the undercoat I like to give it a thin solid coat of this ready for the following layers.

Step 1 – Base Coat

This as with the undercoat is standard for all the variations of the painting technique. As we are going for a nice metal based armour effect here, the

"model" is given a base coat of silver or light steel paint, in this application I have opted to use Tamyia's Chrome Silver paint this should be applied in a thin coat making sure that the area is completely covered and that we get a smooth constant finish to the layer, put this to one side to dry for a few hours please note that you need to give this layer enough time to dry fully before proceeding to the next steps.

Step 2 – Clear Layer Red

Once the base coat is dry you can now add the first layer of clear paint, here I'm going for an armoured comic book Iron-Man look so there will be two separate steps to this application of the clear colours. I'll be painting the red colour first, as this will leave the vast majority of the legs for me to hold. I like to mask off the leg just above the boot area not that it's nessacary, as you can just paint carefully up to this line but I find it makes the painting easier and just in case of a slip we won't have to touch up the base coat.

Now when applying the clear red you need to keep the brush nicely loaded but not overload and apply the paint in long even strokes and try to apply in the paint in one direction, you also need to try and avoid going back over the same area as much as possible as this tends to lift the paint off. Once again we need to leave this to be fully dry before applying the second coat, I would recommend leaving it 3 to 4 hours to dry properly or better still overnight. Once the first layer has dried you can then repeat the process, this depends on the effect you are going for but I have found that the clear red can look fairly washed out with only one coat but that's a judgement call so I say go with what looks good to you.

Step 3 – Clear Yellow Layer

Once the red layers have fully dried and I would strongly recommend leaving it overnight, we can remove the masking from the leg and mask off the red boot at the joint. Now we apply the clear yellow in the same way as we did with the red above, the yellow seems to cover the silver a lot better and gives a nice gold look after one coat, but since I was going for the comic look I applied a second coat, once this was fully dry I removed the masking to reveal the finished paint job.

This technique gives you a very nice shiny clean finish which is great for the comic book look but if you are after a grubbier look to the armour this version of the technique may be what you are after. The preparation and step one are the same as the technique above but at Step 2 to we use a dark wash to add some depth to the paint job as well as to add

that grubby well used look, for this I opted to use Citadels Nulun Oil colour from their shade range of paints. Once this step has dried we can carry on with the adding the coloured layers over this to give us a more real world look to the armour. So we have a process that looks like this

Preparation – Under Coating
Applied as in the basic process.

Step 1 – Base Coat
Same as in the basic process

Step 2 - Wash
It is at this step that we deviate from the basic process, here we apply a wash, which is basically a thinned out paint colour here I'm using a colour

that has been designed as a wash but any colour can be thinned down to be used. We apply this fairly liberally making sure to cover the whole area, this is best applied in even strokes and in one direction. Once the whole area is covered we put it aside to dry.

Step 3 - Clear Layer Red
This is where we re-join the basic process and add in this case the clear red layers to the model.

Step 4 - Clear Layer Yellow
This is where the clear yellow layers are applied as in

step 3 of the basic procedure.

Ok now that's great for the coloured armour but what about the flat dull worker day armour that characters use? Well In the Next issue we will take a look at how to do that as well as some nice ways that can be used to weather metal effect paint jobs.

Build Project

Martian War Machine Diorama

Michael Bilbrey

The models used for this diorama are Pegasus copper plated Martian War Machine with FX lighting kit, church ruins by Verlinden, 1/48 scale soldiers by Tamiya and Woodlawn wood scenes kit. Other materials used for the diorama are: 16" X 16" 3/8"" piece of plywood, 5/32" brass tubing and Aves Epoxy Sculpt. Motorcycle headlight and led light with built in resister from Radio Shack. Oh yes, and Martian Tri-pod by Revierco.

The wiring from the M.W.M. and the camera eye are ran thru the tubing, under the base and into the world globe which houses the battery and the on/off switch is mounted at top edge. To get the wiring through the tube, you first shape the tube by gently bending around any round object to get the angle you want (I used an auto brake line bending tool, as shown in photo). You will then need to drill a hole big enough to pass four wires through in the area where the tube will rest on the wall. This tube will have a vertical tube sobered to it after the wiring is

passed through it. Use two small, stiff wires the type used for jewellery beads is ideal, these are passed through the bottom hole you drilled, these wires will be used as the guide wires to pull the electrical wiring for the kit through.

One goes to the top of the tube to enter the Martian War Machine, and the other to the camera eye. I did this one at a time to make life so much easier for me. After the guide wires are through, twist the positive and negative wires to the Martian War Machine together and loop the guide wire to them (this looks like a Y). Solder the vertical tube to the horizontal tube prior to pulling the kit wiring thru so as to not damage the wiring, now gently pull

the top guide wire through until the two wires for the circuit board in the Martian War Machine are through. Repeat for the other end where the camera eye is, the next step is to separate the Positive and Negative ends, and then temporarily connect these wires to the board and the eye to ensure they work.

Now that the nerve wrecking part is through, we can move on to mounting the Martian War Machine to the wall. The wall in this diorama was in two parts so I just drilled a hole in the wood to stick the vertical tube in with wiring running underneath

to power source. I used Aves Epoxy Sculpt which dries rock hard to fill in the area between the two walls and lightly carved lines for the bricks to make

the wall look like one piece. You could mount the tube in a solid object by simply drilling a 5/32" hole in any wall or object you like suitable for concealing the vertical tube/support for the ship. The rest is simply wiring the ship, placing a LED light in the model headlight, gluing to tube end and moulding a hood onto the headlight. Oh yeah, and painting the glass in the headlight the three colours of the eye.

Creating the ground coverage

This step is after the building is secured to

the base: To create the ground scene I purchased a Woodland Scenics Landscaping Learning Kit from my local Hobby Lobby These are kits used by Model Railroaders to build the scenery for their sets, this kit was very cost friendly at $14.95 USD and contained: earth fine turf, yellow grass fine turf, medium green coarse turf, burnt grass fine turf, green blend turf, soil fine turf, medium green clump-foliage, large clump-foliage, and instructions for use plus a bottle of spray-on glue.

The trees were a separate purchase, 3 to a box for the same price as the foliage kit if memory serves me correctly, a good tip is don't use the water based glue that comes in the bottle with the kit, it puddles and just makes a big mess, I bought a can of multi-purpose spray adhesive made by Elmer's which can be found in many artist's supply shops. It sprays very evenly and then you just sprinkle your turf over it and can even spray over the top of that layer to add more turf or for better adhesion, just be sure to do it lightly, I used a piece of cardboard to shield the building from getting glue on it as I used the spray adhesive for the grass/foliage.

Painting the Diorama

I used FreeStyle acrylic paints which are only available through Kitbuilder's magazine in the US to paint this diorama. I'm not trying to push this brand, they're just my favourite to use. Having said that however, the only part I airbrushed is the stock world base included with the War Machine that I used for housing the battery and on/off switch. The Martian War Machine being copper plated required no painting. The buildings and soldiers were painted by standard hand brushing.

Firstly, let me mention that the Church Ruin castings by Verlinden are very fragile porcelain types, the largest wall of the building was broken into three parts when I opened the shipping container no biggie however since it's a ruined building and needed a couple cracks showing in the walls. After gluing the wall back together, I took cardboard and traced the

shape of the walls onto it, cut out the shape and glued to the back of the parts to re-enforce and strengthen it.

After priming the church ruin, I base coated the building using F.S. Mars Red, I then used a black wash to run in the mortar spaces between the bricks and cracks in the wall letting the wash set for a minute I took a soft cloth and wiped across the wall which blends and subdues the red then I used clear coat with a matt finish, after drying I proceed to dry brush the model with white paint on areas such as wall/window corners where I want to show weathering. I then dry brush with flat black various areas on the building to simulate soot from fire/ smoke and seal with matt clear coat.

The roof over the front corner of the building

I made out of pop-sickle sticks that I snapped the ends off of and trimmed down somewhat, I then painted them grey and dry brushed it to add some depth. I secured the building to the base using two part epoxy cement and pins made from clothes hanger wire. The soldier's are 1/48th scale and produced by Tamiya. They are approximately 1 1/4 inches tall and consist of 5-9 parts for each figure. They are extremely detailed and pretty easy to paint since they are in several parts you paint first and then glue together.

The Tri-pod

The Martian Tri-pod fighting machine is of the 1950's variety and is produced by Revisesco and purchased on line thru Tin-Soldier.com. It is mainly made of white metal with the legs being aluminium tubes and a plastic windscreen for the body of the craft, there is even a little Martian pilot for the cock-pit. I wish I had taken a picture prior to placing the windscreen in as it reflects the light and makes it hard to see inside cock-pit, but alas, I didn't.

I repositioned the body at the shoulder joints from their original build position to give it a more bug-like appearance, there is plenty of room to do even more with this diorama if desired, such as adding more soldier's, a burned up tank and bodies etc. If you're like me, you can have a hard time finishing these things due to thinking up something new to add, well, I guess that's it for now on this one.

Best Regards and Happy Modelling

Showcase

A Wizard of a Scarecrow

Marc Spess of Animateclay.com forwarded me the job of making a scarecrow puppet for independent film maker, Matthew Chappell. He attached an illustration of an early 1900's version of L. Frank Baum's scarecrow to the email and asked if I'd be interested. I said yes and while I was waiting for the ball and socket armature to be custom made by Juergen of Stop-Mo-Tec I began thinking about how I would do it.

I wanted to see the scarecrow made with actual fabric rather than sculpted to look like fabric because I thought it would give it a richer, more interesting look but I had never done anything like it before.

I started work on the scarecrow's head once the armature arrived because I knew it would be the hardest and most important part. Matt required the scarecrow be able to be happy, scared, sad, and shocked. I did a few experimental heads early on that ruled out replacement faces because of complications with the fabric outer layer. I remembered a puppet build-up technique that I saw in Ken Priebe's book "The Art of Stop Motion Animation" where eyebrows and mouths were made out of pipe cleaners and built over with latex. It seemed like I could substitute fabric for the latex and achieve the same effect.

I did a few scarecrow face tests at a slightly larger scale than the final puppet to get used to the fabric over the face. I used a very thin, lightly woven, cheese cloth-like fabric to resemble burlap on a small scale. From these tests I realized the face would have to be very simple because so much of the sculpt's detail was lost under the fabric layer.

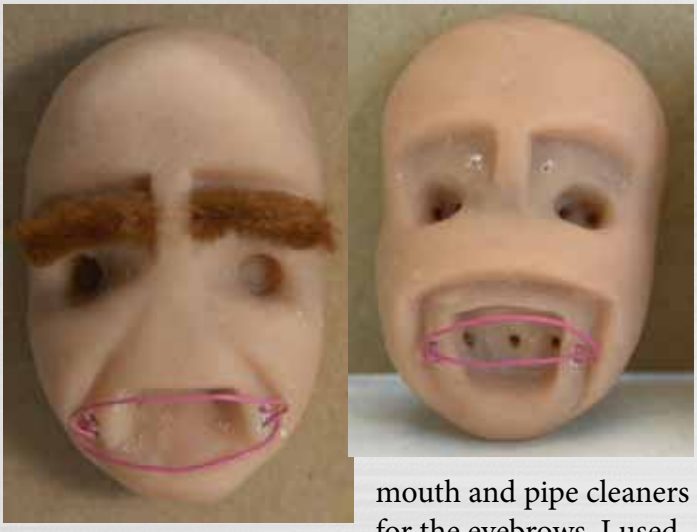
Using a very rough mock up of my idea I did a test animation of the fabric covered face at almost correct scale to see if the idea would even work. It did work and while I intentionally left the fabric rough around the edges of the eyes and mouth for effect

I realized that the loosely woven cheese cloth I had chosen was really too loosely woven and came apart too easily where I had stitched

it to the wires. I needed to make the fabric layer stronger so I decided to use a layer of nylon under the cheese cloth. I used Danskin dancer tights that I got from a specialty dance store because they are very strong compared to the nylons/ panty hose you can get from department/drug stores.

I next built the skull. I sculpted the face and

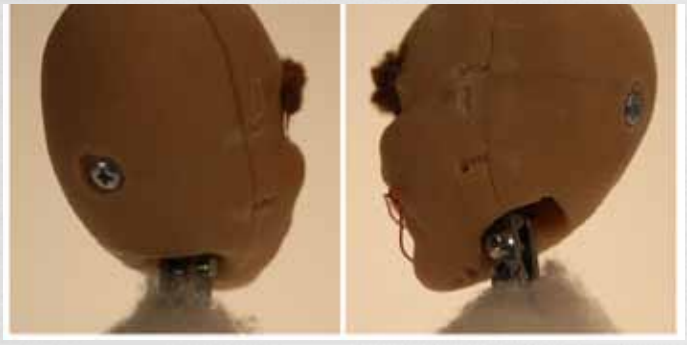
carved it out above the eyes and around the mouth where I needed room for wires. The mouth wires needed to be flush with the rest of the face so they didn't protrude unnaturally while the eyebrows needed to be slightly raised so that the animator could get a hold of them to manipulate them with her fingers. I used 24 gauge aluminum wire for the



mouth and pipe cleaners for the eyebrows. I used the pipe cleaners for added padding. I made several drafts before figuring out just what I wanted. Once I got it I baked the skull.

Leaving the 1/2 inch thick Sculpey skull hollow allowed the head block to fit inside. It was

secured to the back of the skull with a screw. The front of the skull secured to the back of the skull with wire pegs inserted into holes. The front of the face needed to remain removable so the two halves were not glued. I painted the screw so the metal wouldn't

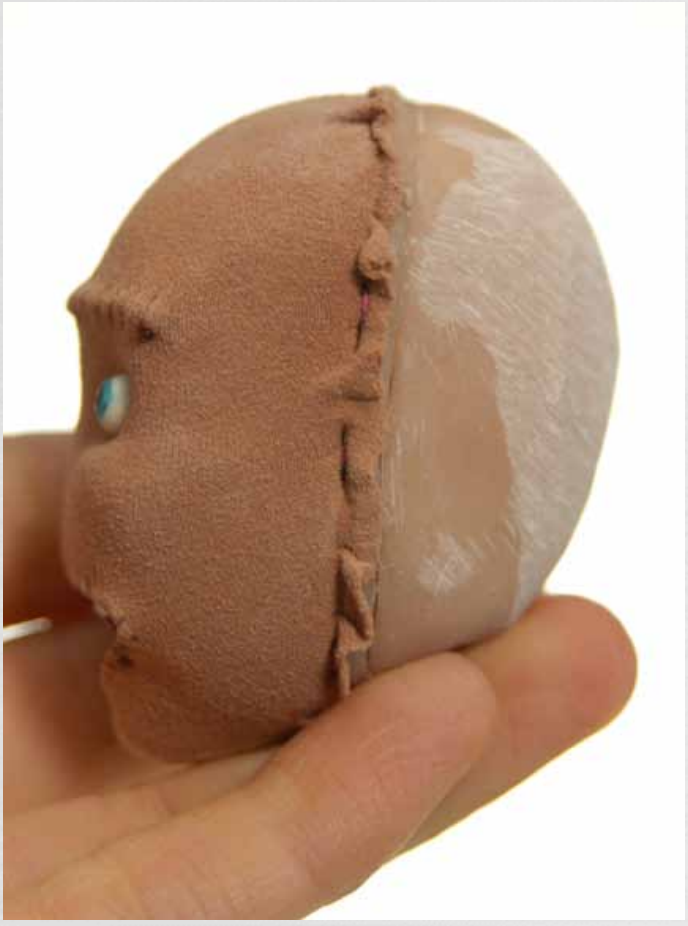


be visible under the fabric..

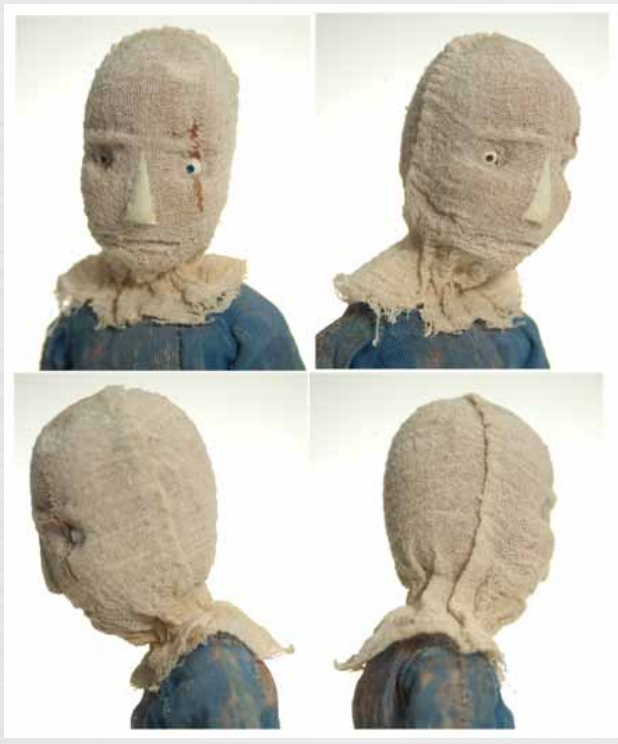
The eyes were made out of Sculpey and painted with acrylic and a gloss finish. I made and baked the eyes prior to the baking of the skull so that I could push them into the clay while I was sculpting it to get a snug fit. The eyes needed to fit into the sockets tightly so they wouldn't fall out but they couldn't be too tight fitting because they needed to be able to move. I ended up making the sockets slightly larger than the eyeballs so that I could glue the nylon layer behind the eyes. This worked better than the direct Sculpey and eye ball contact because it made a soft padding I could slide the eyes into without damaging them and made a smooth surface that allowed the eyes to glide around easily.

I cut out an oval of nylon roughly the size needed to cover the front of the face. I secured it to the face behind the eyes with needle and thread and a little bit of Goop. I popped the pre-painted and finished eyeballs into place and then used Goop to glue the nylon to the skull around the eyes. I only glued around the eyes rather than all over the face to allow for movement of the nylon during animation. I stitched the nylon to the eyebrow wires, pulled the nylon in at the mouth with needle and thread and fastened it to the inside of the skull. Then I stitched the nylon to the mouth wires. I cut and fastened the nylon at the edge of the face with tiny hand made staples inserted into a groove I carved into the face for that purpose.

I



put magnets in the skull for the hat to secure to. I carved out a place for a magnet in the front of the skull and the back of the skull, glued in magnets and glued down the nylon around the magnets. I also painted the magnets so they wouldn't show through the fabric. I cut a whole in the nylon layer for the magnets to show through but not in the cheese cloth layer. Two layers of fabric between the magnets was too thick for the magnets to work successfully. Over the nylon I put the layer of cheese cloth. I cut out the eye holes and glued the cheese cloth to the nylon around the edges of While I intended the edges to be frayed I painted the frayed edges with fabric glue so that they wouldn't fray further while animating. I then hand stitched the cheese cloth to the nylon at the eyebrows. After that I cut out the mouth hole, glued the edges of the cheesecloth to the nylon around the mouth wires, painted the frayed edges around the mouth with fabric glue so they wouldn't continue to fray, and then hand stitched the cheesecloth to the nylon around the mouth. I gathered the cheese cloth around the edge of the face with needle and thread until it was snug around the face, turned the edge under, and hemmed it with a very small



amount of fabric glue. Too much glue would make it difficult to sew through when I needed to attach the front piece to the back. I did the same thing on the back of the head but instead of turning the edge under nicely like I did to the front I just gooped it down and cut it since it would be under the top layer and not visible when the pieces were sewn together finally. I gathered the fabric around the neck and brushed it on the back side with watered down fabric glue to get the permanent wrinkles. After all the glue dried and I painted the face with acrylic I sewed the front of the face to the back.

The head was constructed in two parts because I needed to be able to work on the head from the inside and because I needed the front of the face to be change-able. Using wire instead of replacement mouths turned out to be the best option in this instance but was not without it's downsides. Wire doesn't hold up very well to the repeated bending and movement required for animation so I decided that I needed to make multiple heads should the wires break. Rather than replace the whole face I decided to just make the front of the face replaceable and leave the back of the head permanently attached to the armature's head block. So two as-identical-as-possible faces were made.

To finish the head I painted it with watered down acrylic and distressed it a little with a fine sand paper.

The body of the scarecrow was built up with strips of quilting batting. I wrapped the armature with the quilting batting cut into long 1 inch wide strips. It took several strips to build up to the desired girth

and each time I began or ended a new srip I sewed it down with a little bit of stitching. Then 1 hand sewed a layer of nylon over the batting to keep it

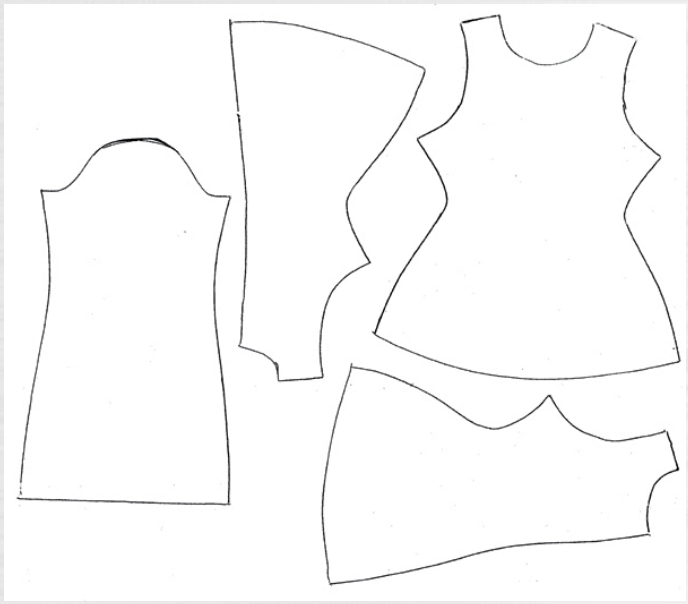
from stretching and shifting while animating. I left openings in the layers for access to rods and screws.

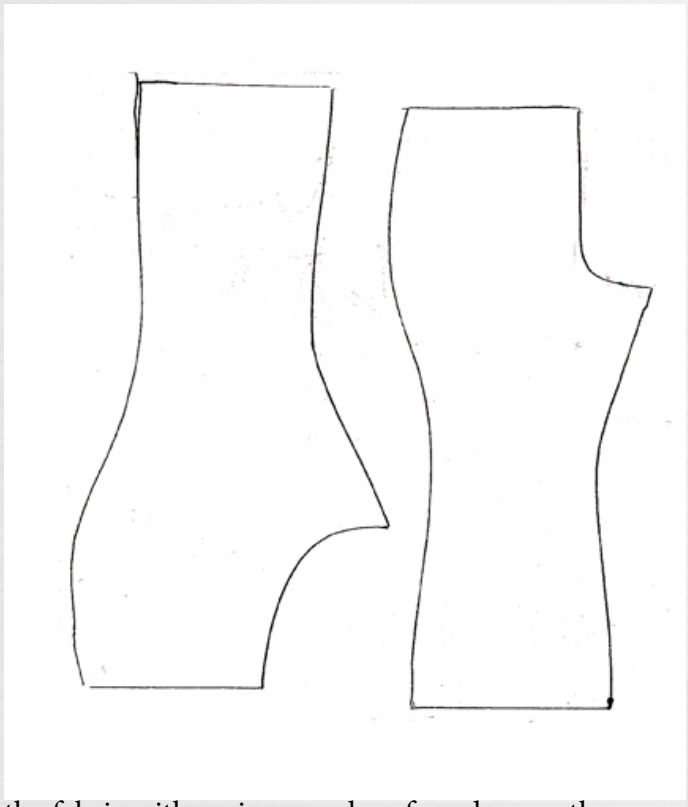
For the costume I started with rough muslin mock

ups of various costume ideas. I originally tried several tight fitting costumes unsuccessfully before the director decided that he did not mind baggy clothing that would move while animating so I tried some baggy outfits. Once the director and I decided on the one that worked best I worked out colors and patterns. I went through fabric that I had on hand and mixed and matched. I found some scraps of a royal blue polyester with a slight sheen that I thought

lent itself well to a scarecrow turned king. It made him just a touch more regal than using a natural fiber. I didn't have any fabric that I liked for the pants so I dyed and painted my own with acrylic and permanent ink.

I drafted patterns based off my initial muslin drapings and





then made the costume out of the final material. I machine sewed the clothing with a very small stitch. Before permanently hand sewing the clothing on the puppet I distressed the costume to give it a worn-out feel. For the shirt I used spot bleach to create sun fading as if the scarecrow had been out in the sun in the field for a long time. I created holes by rubbing the fabric with various grades of sand paper then used acrylic paint to add "dirt" and stains. I tried to put holes in the shirt where natural wear would occur like at the elbows and shoulders. I used an old

shirt as reference.

Wherever I put a hole I wanted straw to show through but I did not want to cover the whole body

with straw because it would be too cumbersome for animating so I made little patches of straw out of raffia to sew to the nylon layer under the clothing. I balled up the raffia and stitched it to the elbows and knees. To make the straw stick out of the sleeves and pant legs I stitched raffia to fabric strips that I then

hand sewed to the nylon.
After I hand sewed the clothing on permanently I did a little more distressing and added finishing

details like stitching repairs and patches.

I stuffed his shirt with raffia before I secured the rope

belt on so that he had the lumpy straw stuffed look. The rope was a piece of cotton cord that I hand dyed.

To get the material for the straw hat I took apart one of my own old hats. I hand sewed it, frayed the edges, and then brushed the underneath side with fabric glue so that it wouldn't unravel further while animating. To age the hat I used washes of light colored acrylic to make it look faded and dirty. I hand stitched straw around the brim so it looked like his hat was stuffed with straw and glued the magnets inside his hat with Goop.

The gloves I made out of knit that I dirtied with acrylic paint. I did not permanently sew the gloves to the nylon so that they could easily be removed should fingers need to be replaced or tightened during animating.

Before I sewed on the shoe I built up the foot with flexible, oven bake clay. I made sure the foot could still bend and screws could still be accessed. The shoes themselves I made out of knit. I used this

fabric because it is easier to work with on this scale than leather or suede. Because the fabric was stretchy I was able to drape it around the foot, secure it to the bottom of the foot with hot glue, and sew it up with one seam in the back. The fold over top of the

boot was made separately from the bottom part so it could have some flare. I hid the seam between the two pieces underneath the fold over. The soles of the shoes are suede that I hot glued to the bottom of the foot with holes cut out for tie-downs. I dirtied and distressed the shoes with acrylic paint and sand paper.

Build Project

Modular Armature Kit workshop

Following a 5 year spell working for Mackinnon and Saunders I figured I'd learnt enough to develop my own armature kit. I'd seen quite often (and still do) on forums students and semi professionals seeking the Golden Fleece – the all sparkling ball and socket armature – however, they can cost a lot of money and not amazingly simple to construct. Also, many people have multiple characters and need to build more than one armature resulting in added costs and time. With this in mind I set about developing a kit that was cheap to buy but effective at its job. I've got to admit, early incarnations of the kit were quite chunky and raw – I'd freeze myself half to death in my garage during the cold months painfully brazing brass parts together and cleaning batches of joints in acid - but hey - I managed to sell enough of them on E-Bay to develop my ideas further.

The Armature FX kit as it stands today is the 3rd generation of what I'd originally conceived. Getting parts manufactured overseas has brought the price down considerably too and my garage days are way behind me.

I always maintained the kit must be simple and so too must be the instructions and literature that accompany the product. Armature building can be so technical and I wanted to stay well clear of this. I've got to admit, this is the first printed workshop I've been involved with so I'll keep it as straightforward as I can.

Basic Humanoid

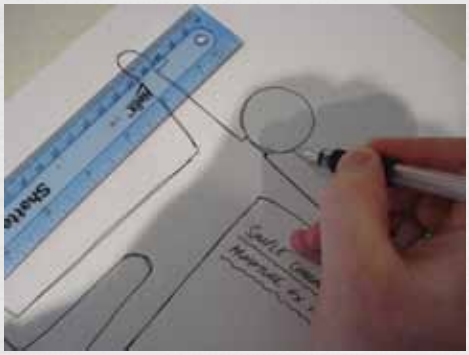
I'm going to talk you through building a basic humanoid character as this always seems the starting point for most budding animators and armature makers. I'm using the basic Armature FX Humanoid Kit which includes all you need to get you going with

a few extra bits you can pick up from most good model shops. This particular kit contains 2 x large plug-in joints (hips and shoulders) 1 x small joint, 2 x feet (with M5 tie down in the toe), 2 x tie – down bolts/washers/wing nuts, 10 x grubs screws, 4 x plastic eyes, 3m of aluminium armature wire and 2 x strong magnets (to aid tying down). Additional to this I've purchased some epoxy glue and some brass K&S round section (3mm). Tools I've used to complete the full job are as follows:

Junior Hacksaw
Vice
Drill
Wire cutters
Small flat head screw driver
Pen/paper/ruler

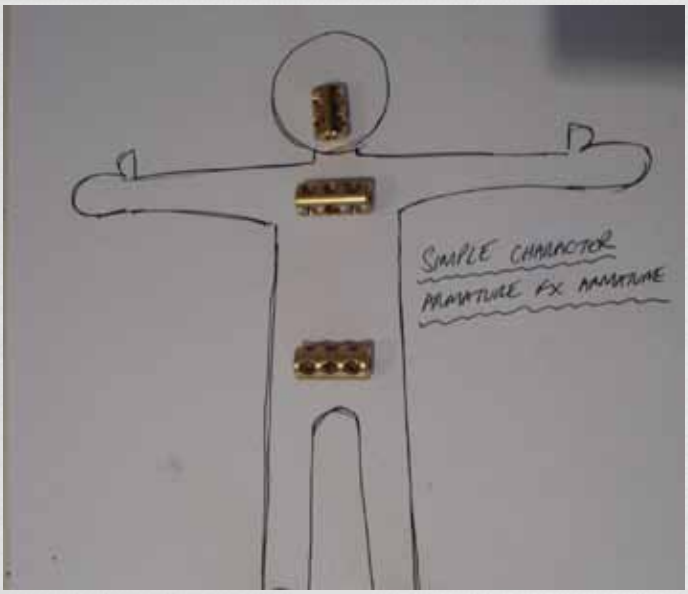
Step one – design

Not too dissimilar to Morph, my basic design comes in at approx 7 inches in height. I wouldn't recommend building wire armatures larger than 8 inches as they become very top heavy and the wire will not be able to support it's own



weight (particularly if your using clay too). Don't let this stop your imagination and ideas though, if you scale down accordingly and work within the 8 inch maximum height limit you should be ok. Having said this, recently I supplied a university in America with a bunch of kits and they built 11 inch armatures to shoot a piece for the ABC network show Extreme Makeover – so I guess what I'm saying is nothing is impossible.

Step two – planning.
There is not too much planning when it comes down to building a basic human character but for bolder designs e.g. an eight legged spider, you would have to consider how many joints you would need and how



you would incorporate them into the design.

In this instance, the two larger joints are used for the shoulders and hips. The smaller joint will become the head which left me to place the two feet.

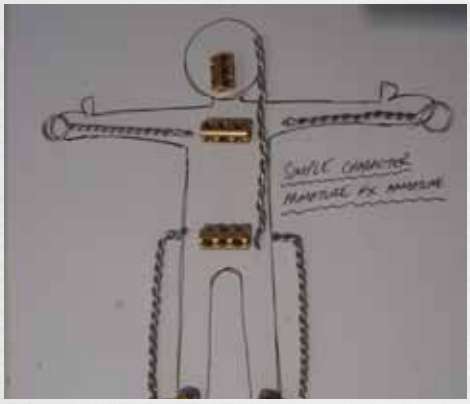
Step three – wire
The kit comes with 1.5mm aluminium wire which is perfect for building most armatures. For the most

part, I'm going to twist 2 strands of the wire together to give the legs, back and arms more support.

As well as providing more support, twisting two strands of wire together also helps when animating. As any animator will know, aluminium wire is prone to breaking at the most

inconvenient time (in the middle of a walk move for instance). By twisting two strands together, if one strand does break you may be able to 'hobble through' on the one strand remaining. The picture shows clamping two strands of wire into a vice.
You then insert the opposite ends of the wire into a drill and gently squeeze the trigger to get an even twist with the wire. How thick you twist your wire is personal preference.

Step four – dry run
Once you have twisted your wire you can begin constructing your armature. Using your design as a plan, cut the lengths of wire needed for the limbs. At this stage you are ready to assemble and secure the wire

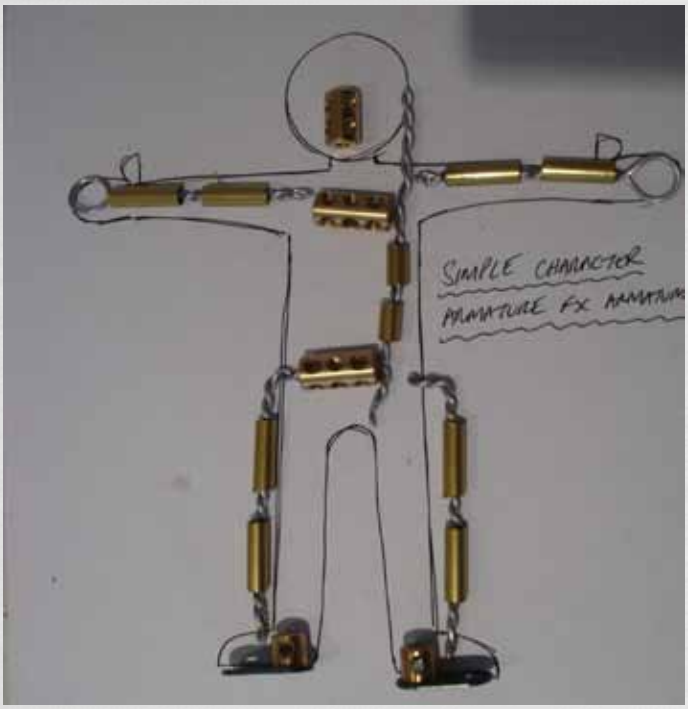


into the joints.

This picture illustrates a 'dry run'. At this stage, the armature is perfectly ready to assemble and start animating with. However I'm going to take this a couple of steps further and continue with some slightly advanced techniques – but definitely worth the extra work.

Step five – advanced aluminium wire armature

For those of you still looking for something a little more ridged and skeletal like an additional step may be followed. Using some round hallow (or square if you wish) 3mm diameter brass K&S section (available



from all good model shops) you can strengthen limbs as is they where actual bones. The wire in this case

solely becomes the joint and makes for a much better armature for supporting clay and or foam.

Using my plan as a guide, I measured the length of the 'bones' I would need. I transferred these measurements to the K&S and cut with a junior hacksaw, sanding down rough edges to finish. With 2 part epoxy glue (this stuff is great as it only takes 5 minutes to set hard but gives you plenty of adjustment time) I set the K&S 'bones' onto the appropriate lengths of aluminium wire. With this design I also intended to make hands. I positioned a second piece of K&S (the forearm) only half way on the wire, allowing enough room to slot in an additional wire hand armature.

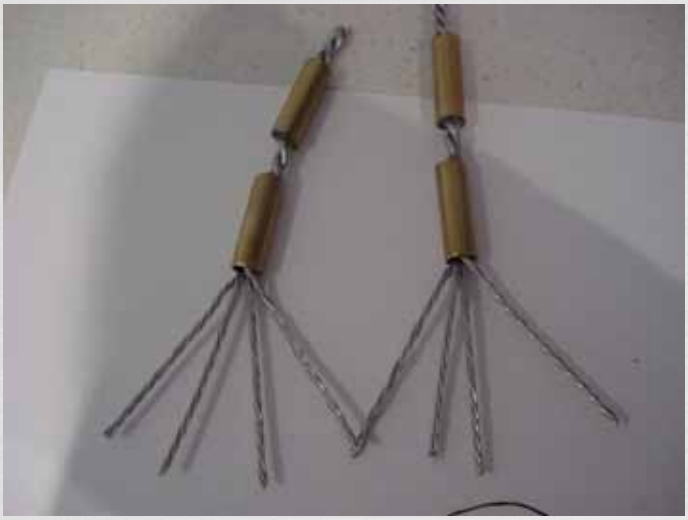
Step six – hands

Following this I took 4 x 0.5mm strands of aluminium wire (not supplied with the kit) and twisted them tight. I cut these lengths into 4cm pieces. Each hand

is to have 4 digits (thumb and 3 fingers). I bound 4 of the 4cm lengths together with a bit more of the thin gauge aluminium wire. This has now formed my basic hand structure.

Using epoxy glue, I glued the hands into the forearm K&S I'd fitted earlier. Once the glue had cured the next step was to shape the hands. Remember to allow enough wire for a small wrist and only trim the length of the fingers once you are 100% sure they are correct

(there's no gluing the fingers back on!). At this stage, I also wrapped the wrists in cotton. Binding the



wrists help support the movement of the wrist and keep the stands together. To finish, I mixed a little more epoxy glue and let it cure for 3 minutes. Using a cocktail stick, I took small amounts of the semi cured epoxy glue and added finger tips to the wire ends. This helps prevent the sharp wire finger tips breaking through clay/foam when you're animating – a neat little tip that takes less than 5 minutes to complete.

After 20 mins (enough time for a quick brew allowing all the glue to fully cure) I cleaned down the any excess glue on the K&S 'bones' in preparation for fitting.

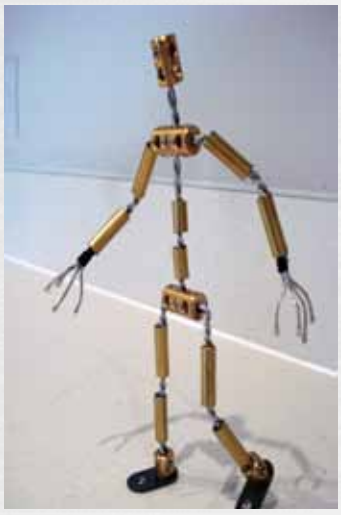
Step six – final fit

With the 'limbs' fully cured, cleaned and ready, the armature joints are ready for a final fit. One by one I secured the limbs in place with grub screws. The armature is now essentially ready to start either fleshing out in clay or you can jump straight in and start animating. The great thing about the Armature FX kit is that is comes with metal feet and two M5 threads in the toe – an absolute must when animating.

The metal feet allow the armature to be magnetised to a metal set top (most animation studios use perforated steel). Or, if you need to hold an extreme position, the M5 tie down and bolts (supplied with the kit) allow you to do this. This is also a great tool if you need to

sculpt clay onto the armature and don't want to handle it all of the time.

I'd suggest if you have spare wire and spare K&S section left over I would make spare limbs for your armature. As any animator will know, armatures wear out easily. With aluminium armatures in particular, the wire can snap. Having replacement parts ready to go saves you time especially if you are mid shot. When I worked at Cosgrove Hall we'd make up many replacement parts for the armatures. Fingers in particular (which were all made from aluminium wire) took a hammering so we always had another set of to swap broken ones out with. The picture shows hands for characters in pre-school show, Fifi Forget Me Not. These hands, cast in silicon, are ready for seaming (the removal of the burr from the mould).



My final words would be to be confident in what you can achieve and start simple and work your way up – don't expect to make A Nightmare Before Christmas on your first attempt! This armature took about an hour to make from start to finish. Kits and additional parts are available from www.animationtoolkit.com. This particular kit costs £19.99 plus P&P.

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